UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,965	10/30/2003	Paul E. Keller	50005-158	7601

32215	7590	02/10/2006

KLARQUIST SPARKMAN, LLP
121 SW SALMON STREET, SUITE 1600
ONE WORLD TRADE CENTER
PORTLAND, OR 97204

EXAMINER
ALSOMIRI, ISAM A

ART UNIT	PAPER NUMBER
3662	

DATE MAILED: 02/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
	10/697,965	KELLER ET AL.
Office Action Summary	Examiner	Art Unit	
	Isam Alsomiri	3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _28 November 2005_.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-31_ is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _1-7 and 9-31_ is/are rejected.
7)☒ Claim(s) _8_ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on _30 October 2003_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.
   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
         application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2, 4-7, 9, 10-21, 23-24, and 25-30 are rejected under 35 U.S.C.

103(a) as obvious over Sheen et al. US005859609A in view of Volkov et al.

US006777684B1 and MacAleese et al. US006359582B1.

Referring to claims 1, 9, 25, Sheen discloses in figure 2 and 10-11 detecting

electromagnetic radiation returned from a concealed surface associated with a person

40, the electromagnetic radiation including one or more frequencies in a range of about

200 MHz to about 1 THz (col. 4 lines 14-15); establishing data corresponding to

intensity of the returned electromagnetic radiation along the surface and depth along the

surface; and inherently (from figures 1 and 10-11, col. 2 lines 47-51) teaches processing

the data to determine if a man-made object suspected to be one or more of contraband

or a potential security threat is being carried by the person as a function of the intensity

along the surface and the depth along the surface. However, even if Sheen does not

teach processing the data "as a function of the intensity along the surface and the depth

along the surface"; Volkov teaches a similar system including processing the data as a

function of intensity and depth from the surface (see col. 9 line 58 – col. 10 line 60, and

col. 71 line 47 – col. 72 line 34). It would have been obvious to modify Sheen's system

to include the processing of Volkov to identify hidden object at various depths.

Furthermore, Sheen and Volkov do not teach the claimed adaptive processing or neural

network processing. MacAleese teaches using neural network processing (see col. 7

lines 35-43). It would have been obvious to modify Sheen's system to include the

neural network processing for faster and smarter identification of hidden objects.

Referring to claims 2, 28, the combination teaches the said adaptively processing

operates with a map of surface depth difference to determine if the man-made object is

being carried by the person as the function of the depth along the surface (see figure 11

Sheen, and figure 25 Volkov).

Referring to claims 4, Sheen inherently teaches comparing a first image frame

data set to a second image frame data set to identify overlapping portion of the frames

(see col. 9 lines 45-60).

Referring to claims 5, Sheen teaches the object is at least one weapon (see

figure 4).

Referring to claims 6, Sheen teaches irradiating the person with an

electromagnetic radiation output from a transducer array; and displaying relative

location of the man-made object on a image representative of the person (see figures 1

and 11).

Referring to claims 7, Sheen teaches the adaptively processing is performed for

each of a number of image portions, the image portions each corresponding to a group

of image pixels (see col. 9 lines 35-60).

Referring to claims 13, Sheen teaches displaying relative location of the concealed object on a image representative of the person (see figures 1 and 11)

Referring to claims 14, Sheen teaches the interrogating includes scanning the person in a portal at a security checkpoint with incident electromagnetic radiation and said establishing includes generating image data corresponding to a number of cylindrical images (see Abstract, figure 1).

Referring to claims 15, Sheen teaches generating information corresponding to one or more cylindrical images of the person (see figure 2).

Referring to claims 16, Sheen teaches adaptively processing a spatial frequency representation corresponding to at least a portion of an image of the person (see col. 8 lines 30-40).

Referring to claim 26, Sheen teaches the device is in the form of a processor-readable memory and the logic is in the form of a number of instructions stored in the memory (see figure 1 [16]).

Referring to claim 27, it's inherent the device includes one or more parts of a computer network and the logic is encoded in one or more signals for transmission over the computer network. However, even if Sheen does not teach the computer network, computer networks are very well known in security checkpoints and it would have been obvious to modify Sheen's system to include the computer network to monitor one or multiple checkpoints from different places.

Referring to claims 10 and 29, Sheen inherently teaches comparing a first image frame data set to a second image frame data set to identify overlapping portion of the

frames (see col. 9 lines 45-60). Sheen is silent about using neural network processing. MacAleese teaches using neural network processing (see col. 7 lines 35-43). It would have been obvious to modify Sheen's system to include the neural processing for faster identification of hidden objects.

Referring to claims 11 and 17, the combination of Sheen, Volkov, and MacAleese teaches the claimed neural network (see rejection of claim 10). The combination of Sheen, Volkov, and MacAleese teaches evaluating each of a number of different image data portions with the neural network to determine if the concealed object is present, the image data portions each corresponding to a different group of image pixels (inherent), the data representative of the map of intensity corresponding to a two-dimensional map of image pixel intensity; calculating a two-dimensional map of pixel range as a function of temporal information determined in relation to said irradiating and said detecting; and determining the data representative of the map of depth in accordance with depth difference based on the two-dimensional map of pixel range (see Sheen col. 9 lines 35-36; Volkov figures 25a,b).

Referring to claims 12, Sheen teaches displaying relative location of the concealed object on a image representative of the person (see figure 1).

Referring to claims 18, the combination of Sheen, Volkov, and MacAleese teaches the neural network is of a multilayer perceptron type (see figure 25, Volkov).

Referring to claims 19, the combination of Sheen and Volkov teaches the map of depth is representative of depth difference and the processing subsystem include

means for determining the map of depth from a map of range information (see figure 11

in Sheen; and figure 25 in Volkov).

Referring to claims 20, Sheen teaches a display device responsive to the one or

more outputs to provide at least one image if presence of the one or more objects is

indicated (see figure 1).

Referring to claims 21, 30, Sheen teaches the processing subsystem includes

means for filtering image information (see col. 5 lines 7-9).

Referring to claims 23, Sheen teaches a platform 41 proximate to said array to

support the person and a motor to move at least one of the array and the platform

relative to another of the array and the platform to perform a security scan of the person

at a security checkpoint (see figure 2).

Referring to claims 24, Sheen teaches the processing subsystem is further

operable to generate image data corresponding to a number of cylindrical images of the

person (see figure 11, col. 9 lines 35-60).

Claims 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Sheen et al. US005859609A in view Volkov et al. US006777684B1 and MacAleese

et al. US006359582B1 as applied to claim 1 above, and further in view of Ockman

US 20020150304A1.

Referring to claim 3, the combination of Sheen and Volkov are silent about using

a median filter and one or more morphological filters. Ockman teaches using

morphological filters implemented as median filter. Therefore, morphological filters read

on the claimed median filter (see [0040]). It would have been obvious to modify the combination to further include the morphological filters to filter out the unwanted objects or signals.

Claims 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheen et al. US005859609A in view Volkov et al. US006777684B1 and MacAleese et al. US006359582B1 as applied to claim 17 above, and further view of Yukl US006057761A.

Referring to claim 22, Sheen teaches the array is provided in a first panel coupled to the processing subsystem, and the first panel and the second panel are arranged to provide a security checkpoint portal. Sheen does not teach the claimed "another array in a second panel". Yukl teaches first and second array panels 16, 18. It would have been obvious to modify Sheen's system to include the second array for quicker scan of the person at the security checkpoint.

Allowable Subject Matter

Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments with respect to claims 1- 31 have been considered but are moot in view of the new ground(s) of rejection.

Regarding Volkov, applicant argues that Volkov's images does not concern "a map of depth along the interrogation region". However, it is clear from at least figures 25 which show cross-sectional view of the images of the object being interrogated, each cross sectional view is based on range and intensity.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isam Alsomiri whose telephone number is 571-272-6970. The examiner can normally be reached on Monday-Friday 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Isam Alsomiri

February 5, 2006

THOMAS H. TARCZA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600